

Art Unit: ***

CLMPTO

03/11/2002

JM

CLAIM 1 (ORIGINAL)

1. A method of enhancing expression of a desired protein at mucosal effector sites, said method comprising placing the protein to be expressed under the control of a promoter having SEQ ID NO 2, SEQ ID NO 3 or SEQ ID NO 4 or a fragment or variant or any of these which has promoter activity, and causing expression in mucosal cells.

2. (Amended) A construct comprising a promoter selected from the group consisting of P_{ompC} , P_{phoP} and P_{pagC} or fragments or variants thereof which can act as promoters, operatively interconnected with a nucleic acid which encodes a protein, able to induce a protective immune response against an organism, in a mammal to which it is administered, wherein said construct contains no further elements of the *ompC*, *phoP* or *pagC* gene.

3. (Amended) The recombinant gut-colonising microorganism which has been transformed with a construct of claim 2.

4. (Amended) The recombinant gut-colonising microorganism of claim 3 wherein said protein is heterologous to said microorganism.

CLAIM 5-6 (CANCELLED)

7. (Amended) The recombinant gut-colonising microorganism of claim 3 which comprises a *Salmonella* spp.
8. (Amended) The recombinant gut-colonising microorganism of claim 7 wherein the *Salmonella* spp. is *Salmonella typhimurium* or *Salmonella typhi*.
9. (Amended) The recombinant gut-colonising microorganism of claim 3 wherein the gut-colonising microorganism is attenuated.
10. (Amended) The construct of claim 2 wherein the heterologous protein is able to induce a protective immune response against *Yersinia pestis*.
11. (Amended) The construct of claim 10 wherein the said heterologous protein comprises an F1-antigen of *Yersinia pestis* or an antigenic fragment or variant thereof.

Art Unit: ***

12. (Amended) A vaccine comprising a recombinant gut-colonising microorganism of claim 3.

13. (Amended) The vaccine of claim 12 which further comprises a pharmaceutically acceptable carrier or diluent.

14. (Amended) The vaccine of claim 12 which is adapted for oral administration.

15. (Amended) A method of inducing a protective immune response against a pathogen in a mammal, said method comprising administering to said mammal a recombinant gut-colonising microorganism of claim 3.

CLAIM 16 (CANCELLED)

17. (New) The recombinant gut-colonising microorganism of claim 3 wherein the heterologous protein is able to induce a protective immune response against *Yersinia pestis*.

Art Unit: ***

18. (New) The vaccine of claim 13 which is adapted for oral administration.
19. (New) The recombinant gut-colonising microorganism of claim 9 which comprises *Salmonella spp.*
20. (New) The vaccine of claim 12 wherein the promoter has the sequences of SEQ ID NO 1, SEQ ID NO 2, SEQ ID NO 3 or SEQ ID NO 4.
21. (New) The recombinant gut-colonising microorganism of claim 19 wherein the *Salmonella spp.* is *Salmonella typhimurium* or *Salmonella typhi*.
22. (New) The recombinant gut-colonising microorganism of claim 17 wherein the said heterologous protein comprises an F1-antigen of *Yersinia pestis* or an antigenic fragment or variant thereof.